



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,613	01/21/2004	King Jien Chui	CS03-050	3506

30402 7590 01/10/2006

WILLIAM STOFFEL

PMB 455

1735 MARKET ST. - STE. A

PHILADELPHIA, PA 19103-7502

EXAMINER

GARCIA, JOANNIE A

ART UNIT

PAPER NUMBER

2823

DATE MAILED: 01/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/761,613

Applicant(s)

CHUI ET AL.

Examiner

Joannie A. García

Art Unit

2823

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 and 36-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 38-40 is/are allowed.
- 6) ☒ Claim(s) 1,2,7,8,12-15,18-21 and 23-25 is/are rejected.
- 7) ☒ Claim(s) 3-6,9-11,16,17,22,26,27,36,37 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim 36 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 22. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 2, 7, 8, and 14, are rejected under 35 U.S.C. 102(b) as being anticipated by Burr (US 2003/0178698 A1).

The rejection is maintained as stated in the Office Action mailed 03-22-05, and as stated below.

Applicant argues that Burr does not teach that said doped depletion regions are not depleted. However, Burr discloses performing a doped depletion region implantation by implanting ions being a second conductivity type to the first conductivity type substrate 706, to form doped depletion regions 770 beneath and separated from source/drain regions 703/705 (Figure 7A, and Paragraphs 0161, and 0164).

Applicant argues that Burr does not teach doped depletion regions beneath said source and drain regions, and under said gate structure. However, Burr discloses doped depletion regions 770 beneath said source and drain regions 703/705 (Figure 7A, and Paragraphs 0161, and 0164).

Burr discloses forming a gate structure 704 over a silicon substrate 706 being doped with a first conductivity type impurity such as p-type with a concentration of 1×10^{17} atom/cc (Figure 7A, and Paragraphs 0024, 0096, and 0161), forming a channel region under said gate structure with a concentration of 1×10^{17} atom/cc (Figure 7A, and Paragraph 0096), performing a doped depletion implantation region by implanting ions being a second conductivity type to the substrate to form doped depletion regions 770 beneath and separated from source/drain regions 703/705 (Figure 7A, and Paragraphs 0161, and 0164), wherein said doped depletion region is not formed under said gate structure and said doped depletion regions are fully depleted (Figure 7A), and performing a s/d implant by implanting ions having the second conductivity type into the substrate to form the source/drain regions adjacent to said gate structure, the doped depletion regions are beneath and separated from source/drain regions 703/705 (Figure 7A, and Paragraph 0161), said doped depletion regions having an impurity concentration and thickness so that said doped depletion regions are depleted due to a built-in potential created between said doped depletion regions and said substrate (Figure 7A).

Claims 12, 13, 15, 18-21, and 23-25, are rejected under 35 U.S.C. 103(a) as being unpatentable over Burr as applied to claims 1, 2, 7, 8, and 14, above, and further in view of Bae et al (US 20040075143 A1).

The rejection is maintained as stated in the Office Action mailed 03-22-05, and as stated above.

Art Unit: 2823

Claims 3-6, 9-11, 16, 17, 22, 26, 27, and 37, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 38-40 are allowed.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joannie García whose telephone number is (571) 272-1861. The examiner can normally be reached on Monday through Friday.

Art Unit: 2823

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith, can be reached on (571) 272-1907. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

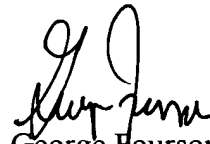
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JAG

January 6, 2006

GFourson
Primary Examiner



George Hourson
Primary Examiner
Art Unit 2823